

09/592,839
Page 7 of 10**REMARKS**

In the Office Action, the Examiner noted that claims 1-17 are pending in the application, and claims 1-4, 7, 9, 13, 14 and 16 are rejected, while claims 5, 6, 8, 10-12, 15, and 17 are objected as being dependent upon a rejected base claim. By this amendment, claims 2 and 4 have been amended. Thus, claims 1-17 are pending in the application. The Examiner's rejections are traversed below.

CLAIM OBJECTIONS

The Examiner objects to claims 2 and 4, (and claims 5-12 that depend from claim 4) where the term "second image" should be "second filtered image." Applicants have amended claims 2 and 4 to reflect this correction.

REJECTION UNDER 35 U.S.C. § 112

The examiner rejects claim 4 under 35 U.S.C. § 112, second paragraph (and claims 5-12 that depend from claim 4) for a lack of antecedent basis for the term "discriminating." Applicants amended claim 4, removing the term, thereby overcoming the rejection.

REJECTION UNDER 35 U.S.C. § 102(e)

The Examiner rejects claims 1-4, 7, 9, 13, 14, and 16 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,244,764 to Lei et al. (hereinafter referred as "Lei").

Regarding claim 1, Lei teaches a verification method to determine the quality of a data matrix symbol marking on the surface of an object. The verification method of Lei requires first a decoding step (see Lei, Figure 9, step 1), ostensibly since a data matrix symbol that cannot be decoded can be assumed to be poor quality.

The method disclosed by Lei does not pre-process an acquired image to obtain a first filtered image and a second filtered image using different filters, as claimed by Applicants. The verification method of Lei measures aspects that affect print quality of a data matrix on the acquired image. The aspect measurement is not a "pre-processing" step, but rather the performance of the intended operation on the image. The verification

method of Lei then filters the image with morphology, and again measures the aspects that affect print quality (Lei, Figure 9, described at column 6, lines 28-66). Lei teaches that an image, that has already been decoded, with a determination that a valid symbol exists in the image, can be further evaluated to verify the quality of the symbol from an image analysis perspective.

Further, Lei does not evaluate each of said first and second filtered images for a valid symbol, wherein said second filtered image is not evaluated unless said first filtered image fails to result in a successful evaluation. As mentioned above, the aspect measurement of Lei is performed on an image that *has already been decoded*. Lei teaches a method for verification of a data matrix symbol, where Applicants claim a method for decoding a two dimensional symbol matrix. There are at least two important distinctions between Lei and the method claimed by Applicants in claim 1:

First, Lei performs its verification method on an image that has already been decoded, where Applicants claim a step of evaluating each of a first and second filtered image for a valid symbol. Lei outputs measurement quality metrics of an image representing a symbol that has already been evaluated. By contrast, Applicants' claimed method operates on an image that *may or may not* contain a valid symbol, and the output of Applicants' claimed method is either a successful evaluation or an unsuccessful evaluation.

Second, Lei operates sequentially on both the original decoded image and the image filtered with morphological operations. Lei *must* operate on both images so that it can compare the metrics derived from the first image to the second filtered image. By contrast, Applicants *stop processing* – i.e., the second filtered image is not evaluated, unless the first filtered image fails to result in a successful evaluation.

According to the MPEP, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP § 2131 citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). Since Lei teaches neither the pre-processing step of claim 1, nor the evaluating step of claim 1, the reference cannot form the basis of anticipation under § 102(e).

09/592,839
Page 9 of 10

Therefore, for reasons stated above, the method of decoding a two-dimensional symbol matrix as claimed by Applicants in claim 1 is not anticipated by the verification method of Lei. Accordingly, Applicants respectfully assert the rejection of claim 1 under § 102(e) has been overcome.

Regarding claims 2, 3, 4, 7, and 9, that depend from claim 1, analogous argument applies to show that Lei does not anticipate the method claimed by Applicants in claims 2, 3, 4, 7, and 9. Further, argument analogous to that of claim 1 applies to apparatus claim 16. The apparatus to perform the method disclosed by Lei does not anticipate the apparatus claimed by Applicants in claim 16.

Regarding claim 13, Lei does not teach a method of decoding a two-dimensional symbol matrix marked on an object as claimed by Applicants. As argued above, since Lei is further measuring the aspects of an image of a symbol that *has already been decoded*, Lei does not need to evaluate whether a decoding step produces a valid result. Further, since Lei must perform aspect measurement on a first and a second image (to be able to compare the aspect measurements), Lei does not have the option of *not* repeating subsequent steps, as claimed by Applicants.

Accordingly, Applicants respectfully assert that the rejection of claim 13 has been overcome. Regarding claim 14 that depends from claim 13, analogous argument applies to overcome the rejection of claim 14.

Applicants acknowledge and appreciate the Examiner's allowance of claims 5, 6, 8, 10-12, 15, and 17, but for the objection that such claims depend from a rejected base claim. In view of the above remarks, Applicants respectfully believe the objection has been overcome by argument as to the traversal of the Examiner's rejections of any base claims.

CONCLUSION

In view of the above amendment and remarks, Applicant respectfully requests withdrawal of all rejections and allowance of the claims pending in the application. The Examiner is invited to telephone the undersigned Applicant's Attorney to facilitate advancement of the present Application.

11-11-03 15:25

From-LEGAL DEPARTMENT

5086503329

T-525 P.11/11 F-158

09/592,839
Page 10 of 10

Respectfully submitted,



Arthur J. O'Dea
Registration Number 42,952
Patent Attorney
Cognex Corporation
One Vision Drive
Natick, MA 01760
(508) 650-3108

Date: 11/11/03